



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 28401-2012

**National food safety standards of food additives -- Phospholipid
(English Translation)**

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1 Scope

This Standard is applicable to food additives - phospholipids of which the main raw materials are vegetable oilseed materials such as soybean, sunflower seed or their processed by-products, and which are processed by process such as dehydration, impurity removal, de-coloration or degreasing.

2 Technical requirements

2.1

Sensory requirements. It shall conform to Table 1.

2.2

Physiochemical indices. It shall conform to Table 2.

Appendix A

Test Methods

A.1 General

Unless otherwise specified, reagent and water in this Standard refer to analytic reagent and Grade-3 water as specified in GB/T 6682-2008. Unless otherwise specified, standard titration and reagent solutions used for determination of impurities shall be prepared in accordance with GB/T 601, GB/T 602 and GB/T 603. The solution used in test which is not indicated with preparation method refers to aqueous solution.

A.2 Identification test

A.2.1 Put 2ml of ethanol solution (0.5%) in test tube; add 1 to 2 drops of cadmium chloride.

White precipitate is generated.

A.3.1 Reagent and substance

n-hexane.

A.3.2 Instruments

A.3.2.1 Suction filter. 500 ml.

A.3.2.2 Sand core glass crucible. G3.

A.3.3 Operation steps

A.3.3.1 Put a clean crucible in a 101°C ~ 105°C drying oven to bake to constant weight.

A.3.3.2 Take 10.0g of mixed samples (accuracy. 0.0001g); put it in beaker. Add 100ml of n-hexane; stir the solution with glass rod to fully dissolve. Extract and filter through constant-weight crucible.

A.3.4 Calculation

The content of insoluble substance - n-hexane w_1 (the value is expressed by percentage, %) is calculated according to Formula (A.1).

A.4.1.1 Petroleum ether

A.4.1.2 Standard sodium hydroxide solution. $c(\text{NaOH}) = 0.1 \text{ mol/L}$.

A.4.2 Operation steps

Weigh about 2g of mixed samples (accurate to 0.001 g); put it in a 250 mL conical flask.

Add 50ml of petroleum ether. Shake lightly to fully dissolve. Add 50ml of neutral ethanol; shake well. Add 4 drops of phenolphthalein indicator solution; use sodium hydroxide standard titration solution to rapidly titrate; shake while titrating. When it is closing to the end, the speed of titration shall be slowed down to 1 to 2 drops per time, until the solution appears in pink and maintains for 5s without fading off as the end.

A.5.1 Reagent and substance

A.5.1.1 The mixed solution of acetic acid and chloroform. volume ratio is 3:2. Mix 3 portions of glacial acetic acid and 2 portions of chloroform together.

A.5.2 Instruments

The common laboratory instruments shall apply. All the used instruments shall not contain reductive or oxidizing substances. The surface of ground glass shall not be coated with oil.

A.5.3 Operation steps

Take 5g of mixed samples (accurate to 0.001g); put it in a 250 mL iodine flask. Add 30ml of mixed solution of glacial acetic acid and chloroform. Shake it to fully dissolve. Add 0.5ml of saturated potassium iodide solution; put cover on it.

Peroxide value w_3 , the value is expressed by milligram equivalent of active oxygen per kilogram meq/kg, is calculated according to Formula (A.3).

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